DOCUMENT RESUME

ED 250 510 CE 040 023

AUTHOR Slater, Shirley; Cibrowski, Lee
TITLE A Preservice Model for Integrating Computer Literacy into the Curriculum for Vocational Home Economics Education.
PUB DATE Dec 84
NOTE 21p.; Paper presented at the National Association of Teacher Educators in Vocational Home Economics Meeting, American Vocational Association Convention, (New Orleans, LA, December 1984).
PUB TYPE Speeches/Conference Papers (150) -- Reports - Research/Technical (143)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Behavioral Objectives; Competence; *Computer Literacy; Computer Oriented Programs; Courseware; *Fused Curriculum; Higher Education; Instructional Materials; Learning Activities; *Models; *Occupational Home Economics; *Preservice Teacher Education; Questionnaires; Records (Forms)

ABSTRACT

A model was proposed whereby students enrolled in a four-year program in vocational home economics would be given instruction in computer literacy using an integrated rather than a course or unit approach. The model called for identification of the competencies and skills necessary for computer literacy, determination of how students can obtain the competencies, identification of existing courses into which instruction in the competencies can be integrated, development of units of instruction for the courses, selection of software, and field testing and revision of the materials. The model addressed the following student competencies: demonstrate a basic understanding of how computers work; experience the use of computers in a variety of subject matter applications; analyze the sociological and psychological impacts of computers on various segments of the school and community sectors; and apply computer technology in generating new ideas, creating new products, and solving problems. (This paper comprises a brief narrative description of the model, a flow chart outlining the model, a list of computer literacy skills organized according to courses into which they can be integrated, a practicum, a software evaluation form, a microcomputer experience, an opinion form dealing with computers in education, assignment sheets, and a list of uses of computers in home economics education programs.) (MN)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED250510

A PRESERVICE MODEL FOR INTEGRATING COMPUTER LITERACY INTO THE CURRICULUM FOR VOCATIONAL HOME ECONOMICS EDUCATION

Presented by

Shirley Slater, Ph.D.
Director and Vocational Teacher Educator

and

Lee Cibrowski, M.S.
Assistant Professor and Vocational Teacher Educator

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

This document has been reproduced as received from the person or organization originating it.

Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

S Slater

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

School of Home Economics
College of Health and Human Services
Ohio University
Athens, Ohio 45701
(Phone: 614-594-5392)

NATEVHE Meeting, New Orleans, Louisiana, December 1984

CE 040023

A Preservice Model for Integrating Computer Literacy

Into the Curriculum for Vocational Home Economics Education

Objectives

1. To present the process used in the development of a computer literacy model for a four-year preservice program in vocational home economics education.

2. To discuss the advantages and disadvantages of an integrated model versus a course or unit model for computer literacy.

3. To propose creative ways to use computer technology in vocational home economics education.

Overview of the Presentation

Most people agree that students need to become computer literate in order to function effectively in their present roles and to be prepared for the future. Once the computer was thought to be a highly specialized tool for the business world, but with the development of the micro computer, the computer has moved into the classroom and home.

In the past, teacher education preservice programs did not prepare teachers to meet this educational challenge. Recently, the approach to computer literacy has often been to add a computer course or a unit to the preservice program. As educators, we know that students will retain what they learn longer and apply knowledge and skills more effectively if they have had the opportunity to practice in actual situations. We decided to develop a computer literacy model that would be integrated into the total curriculum. The model included the following student competencies:

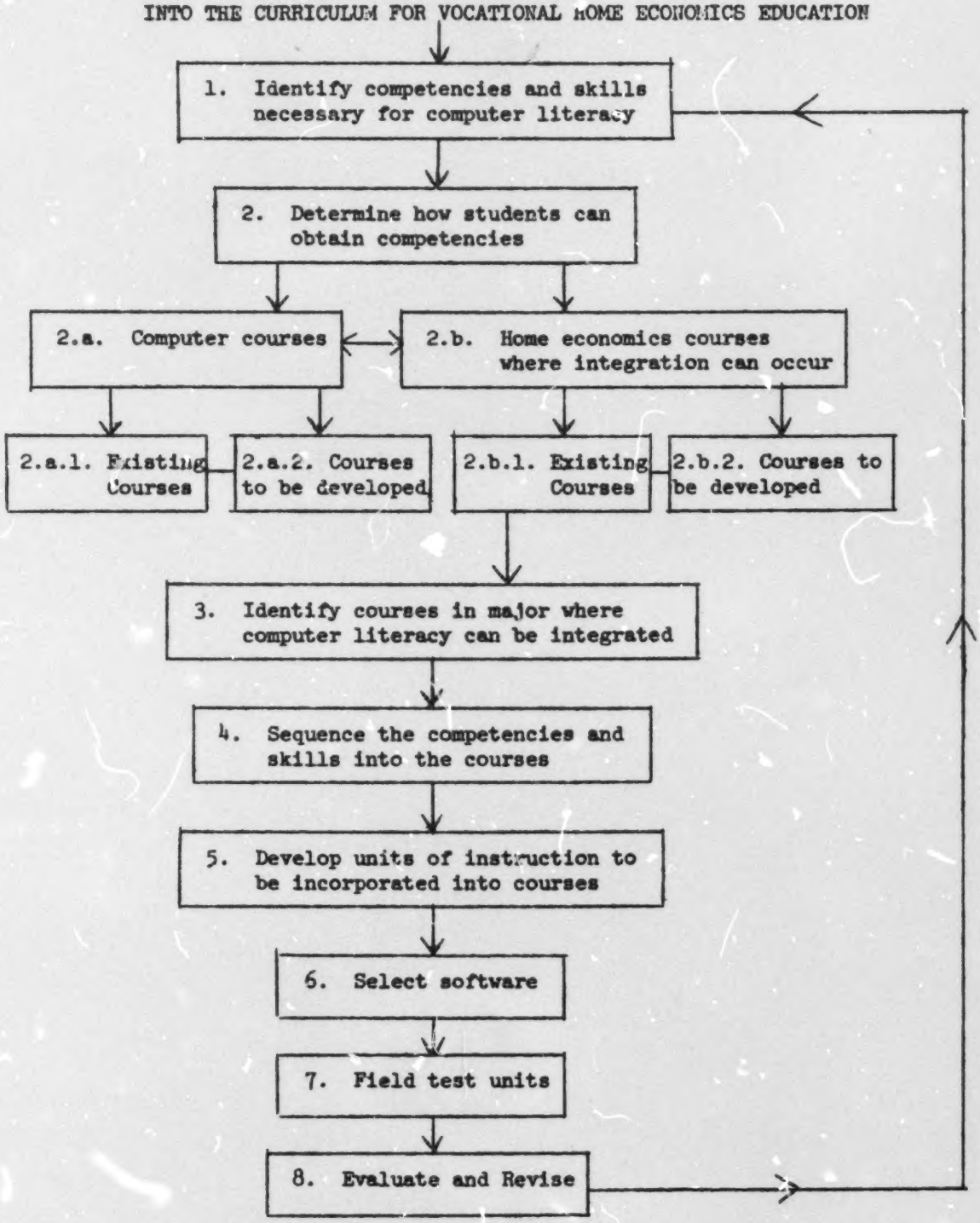
- Demonstrate a basic understanding of how computers work.
- Experience the use of computers in a variety of subject matter applications.
- Analyze the sociological and psychological impacts of computers upon society, the professions, the family, and the individual.
- Apply computer technology in the generation of new ideas, creation of new products and/or the resolution of problems.

During the four years of the vocational home economics preservice program, students interact with computers in both "methods" and content courses. Not only do the students learn about computers and software packages, but they also learn how to integrate computers into the curriculum.

As a result of the pilot program this model has been revised and expanded. Students and faculty have been very positive about the integrated computer literacy model and plans are underway to develop additional applications.

BEST COPY AVAILABLE

A PRESERVICE MODEL FOR INTEGRATING COMPUTER LITERACY
INTO THE CURRICULUM FOR VOCATIONAL HOME ECONOMICS EDUCATION


1. Identify competencies and skills necessary for computer literacy
2. Determine how students can obtain competencies
2.a. Computer courses
2.b. Home economics courses where integration can occur
2.a.1. Existing Courses
2.a.2. Courses to be developed
2.b.1. Existing Courses
2.b.2. Courses to be developed
3. Identify courses in major where computer literacy can be integrated
4. Sequence the competencies and skills into the courses
5. Develop units of instruction to be incorporated into courses
6. Select software
7. Field test units
8. Evaluate and Revise

School of Home Economics, College of Health and Human Services,
Ohio University, Athens, Ohio

1. COMPETENCIES NECESSARY FOR COMPUTER LITERACY

-Demonstrate a basic understanding of how computers work

-Use the computer in a variety of subject matter applications

-Assess the advantages and disadvantages in using the computer in a variety of subject matter applications

-Analyze the sociological and psychological impacts of computers upon society, the profession, the family and the individual.

-Apply computer technology in the generation of new ideas, creation of new products and/or the resolution of problems.

4. SEQUENCE OF KNOWLEDGE AND SKILLS INTO COURSES

COURSE	KNOWLEDGE AND SKILL
HEG 101: Professional Awareness	-Acceptance of computer as a resource for personal and professional use
HECE 299: Sophomore Practicum--Professional Assessment	-Development of computer vocabulary -Awareness of computer history -Evaluation of educational software -Uses of computer in education: Determining readability levels
HECE 340: Teaching of Home Economics	-Uses of computer in education: Test bank construction -Incorporation of computers into the curriculum
HECE 390: Family Consumer Economics	-Evaluation of computer hardware -Consumer decision making
HECE 395: Home Management	-Impact of computers on individual, family and workplace
HECE 396: Home Management Laboratory	-Home management by computer
HECE 399: Junior Practicum--Professional Development	-Word processing -Uses of computers in education: Classroom management -Uses of computers in education: Working with special needs students
EDPL 463,464,465: Student Teaching and Student Teaching Seminar	-Incorporation of computers into the curriculum -Adaption of software for classroom

School of Home Economics, Ohio University, 1984.

4 and 5. UNITS OF INSTRUCTION AND SOFTWARE UTILIZED

COURSE	UNIT AND SOFTWARE
HEC 101: Professional Awareness	-Microcomputer Project -"Apple Presents Apple" Apple Corp.
HECE 299: Sophomore Practicum	-Evaluating Microcomputer Software -"Eat Smart" The Pillsbury Company -"Food Facts" Minnesota Educational Computing Consortium (MECC) -"Master Type" Learning Software Inc. -"Nursery Time" Meary Bee Communication -"Nutrition I" MECC -"Nutrition II" MECC -"Teacher Utilities, Vol. I" MECC -"Typing Tutor II" Microsoft Corporation -"Chivalry" Weekly Reader Family Software -"Floorplan" Learning Seed Company -"Design Elements and Principles" Orange Juice Software -"Know Your Pattern" Orange Juice Software -"Finding Readability Levels" MECC
HECE 340: Teaching of Home Economics	-Student Evaluation and Testing (Being Developed) -"Microtest" Chariot Software Group -"Test Construction and Review" Hobar -"Teacher Utilities, Vol. I" MECC
HECE 390: Family Consumer Economics	-Using Microcomputers in the Decision Making Process -"Rank Master" Exemplary Software -Advertising (To be developed) -"Advertising Techniques" Micro Power and Light -"Analyzing an Ad" MCE Inc.
HECE 395: Home Management	-Analyze impact of computer
HECE 396: Home Management Lab	-Using the Microcomputer for Dietary Management -Menu Development "Kitchen Planner" Sav-Soft Programs "Micro Cookbook" Virtual Combinatics Menu II" C&H Video "Smart Shopper" Power Up Software "Nutrition I" MECC -Personal Finance (To be developed) "Personal Finance Master" Spectrum Software "The Money Manager: A Simulation" Sterling Swift

COURSE	UNIT AND SOFTWARE
HECE 399: Junior Practicum	-Word Processing "Executive Secretary" Sof/Sys Inc. "Executive Secretary Speller" Sof/Sys Inc. -Classroom Management (To be developed) "AEN Grading System II" Apple Educators Newsletter "Report Card" Sensible Software, Inc. -Working with Special Needs Students (to be developed) "Special Needs, Vol. 2" MECC "Koala Pad" Koala Technologies Corp. -Adaptive Firmware Card" Adapative Peripherals

EVALUATING MICROCOMPUTER SOFTWARE

HECE 299

SOPHOMORE PRACTICUM

OBJECTIVES: This unit of instruction is designed for persons interested in reviewing, evaluating and using microcomputer software. The participants will:

1. Analyze software evaluation criteria.
2. Explore a variety of microcomputer software programs.
3. Evaluate microcomputer software.
4. Demonstrate proficiency in the operation of a microcomputer.
5. Determine reading level of assigned texts.

ASSIGNMENTS:

1. Attend and participate in class sessions.
2. Evaluate, in writing, using the evaluation form provided, a minimum of 3 microcomputer software programs.
3. Share ideas for utilizing microcomputer software in the classroom.
4. Share the evaluations of the microcomputer software programs.
5. Determine the reading level of 3 assigned home economics textbooks using all six reading level tests. (Spache, Dale-Chall, Fry, Raygor, Flesch and Gunning-Fog). Run separate analyses of each (3 per text) passage plus an overall analysis of the text. Turn in the computer printouts and a written evaluation answering the following questions.
   A. What reading test do you prefer and why?
   B. For what grade(s) and classes would you use each text? Would you use individual chapters for different grades? Why or why not? Why might individual chapters have different reading levels?
   C. Review text and evaluate it for sexism, racism, etc. Do you think this text is accurate in its projection of gender roles, races, etc.? Why or why not? What points would you want to keep in mind when using this text?
   D. What did you like and dislike about this software package?
6. Utilize the microcomputer.

Varner and Cibrowski, 1984
School of Home Economics, Ohio University

SOFTWARE EVALUATION

Name of program_____
Manufacturer's or distributor's name_____
Address_____
Cost_____ Copyright/date_____
Available for what microcomputers (model and memory)_____
_____
Peripherals needed_____
Execution time_____minutes (approximate) for average use.
Description of program_____
_____

Appropriate grade level: primary inter. jr. high sr. high college

Type of computer application(s) (check one or more)

___simulation	___tutorial	___drill and practice
___game	___remediation	___enrichment
___problem solving	___management (only)	___diagnostic/prescriptive
___other_____		

Kinds of courses for which this program is appropriate
_____

Prerequisite skills or courses needed
_____

Available at Ohio University. _____Yes _____No Location_____

1.	Is it free from technical errors?	____Yes	____No
2.	Does it take advantage of the computer's unique capabilities?	____Yes	____No
3.	Is there printed material available to support the program?	____Yes	____No
4.	Is it educationally sound?	____Yes	____No
5.	Does it include diagnostic and branching features?	____Yes	____No
6.	Is it easy to use?	____Yes	____No
7.	Does it provide appropriate feedback?	____Yes	____No
8.	Is the program creative and does it stimulate creativity in the user?	____Yes	____No

9. Who is in control? Computer____ User_____
10. What social characteristics are displayed?

competition	_____
cooperation	_____
stereotyping	_____
bias	_____
moral judgements	_____

Nancy E. Thompson
School of Home Economics
Ohio University

The following questions should help you in using the software evaluation card. The numbers correspond to the items on the card and should help you to interpret them.

1. Is it free from technical errors?
   a. Does it run?
   b. What happens if a student gives an unexpected response?

2. Does it take advantage of the computer's unique capabilities?
   a. Is the computer the best medium for the presentation of the program?
   b. Is there a balanced, logical use of color, sound, and graphics?

3. Are there printed materials available to support the program?
   a. Does it include unit objectives, program description, supporting information, and classroom activities?
   b. Are these materials educationally sound?

4. Is the program educationally sound?
   a. Is it free from content errors?
   b. Does it contain appropriate activities and reinforcement for age level?
   c. Is it at an appropriate reading level?

5. Does it include diagnostic and branching features?
   a. Does it attempt to determine student level and adjust?
   b. Does it allow for teacher modification?

6. Is it easy to use?
   a. Is it "friendly?"
   b. Does it focus on the program not the computer?

7. Does it provide feedback?
   a. Is it appropriate to level?
   b. Is it positive?
   c. Does it help the student learn from an error?

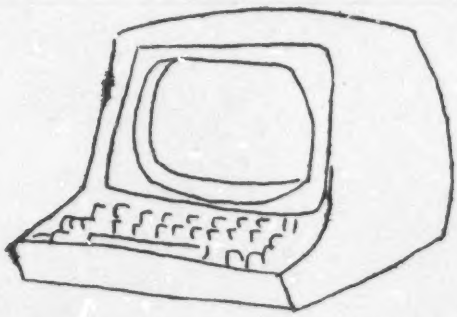
8. Is the program creative and does it stimulate creativity in the user?

9. Who is in control -- the computer or the student?

10. What social characteristics are displayed?
    a. Does it promote competition or cooperation?
    b. Is it free from race, ethnic, and sex stereotyping?
    c. Does it present moral issues or value judgements?
    d. Does it express positive human values?

Nancy E. Thompson
School of Home Economics
Ohio University

Input: Microcomputer Experience



Directions: Answer the following questions about your microcomputer experience.

Your Name:_____

1. Do you have a microcomputer? Yes_____ No_____
   If you do, what do you use it for?

2. Have you ever used a microcomputer? Yes_____ No_____
   If you have, what kind of microcomputer and what did you use it for?

3. Are there microcomputers available for your use at school?
   Yes_____ No_____
   If so, how are they used?

4. Have you ever taken a microcomputer course? Yes_____ No_____
   If you have complete the following:
   level: high school_____
   technical school_____
   University_____
   other_____
   Did you learn programming? Yes_____ No_____
   If you did, what language?_____

5. What is your greatest concern about using the microcomputer? Why?

School of Home Economics, Ohio University, 1983

OPINION SURVEY

COMPUTERS IN EDUCATION

Circle the number which most closely reflects your opinion by using the following code:

1 = Strongly Disagree
2 = Disagree
3 = Neutral
4 = Agree
5 = Strongly Agree

		SD	D	N	A	SA
1.	Computers will be in the homes of the future.	1	2	3	4	5
2.	Computer software can be used in creative ways other than the author's suggested use.	1	2	3	4	5
3.	The microcomputer has a place in every classroom.	1	2	3	4	5
4.	I feel comfortable with the idea of using the microcomputer as a teaching tool.	1	2	3	4	5
5.	I believe the computer can be an effective teaching tool.	1	2	3	4	5
6.	I feel comfortable in selecting software programs for my use.	1	2	3	4	5
7	I feel comfortable operating the computer myself.	1	2	3	4	5
8.	I feel competent in evaluating software for its best use in my curriculum.	1	2	3	4	5
9.	A computer is only as effective as the person using it.	1	2	3	4	5
10.	Computers are not just a fad, but will be a permanent part of the classroom of the future.	1	2	3	4	5
11.	Because of the rapidly developing technology, teachers and students will learn about computers together.	1	2	3	4	5
12.	I am comfortable when learning from students.	1	2	3	4	5
13.	Computers are a teaching/learning tool and will not replace the teacher.	1	2	3	4	5
14.	A computer is only as effective as the information put into it.	1	2	3	4	5
15.	Computer assisted instruction can be a creative teaching/learning strategy.	1	2	3	4	5

School of Home Economics, Ohio University, 1983

HECE 390
FAMILY CONSUMER ECONOMICS

Varner 1984
Ohio University

TITLE: USING MICRO COMPUTERS IN THE DECISION MAKING PROCESS

RATIONALE: As a consumer, you live in a world of scarce resources. Good decision making skills are necessary in order to gain the right level of personal satisfaction as you make consumer choices. Decisions are influenced by a variety of factors including values, personal resources, information, time and other people. Decision making can be a very complex process, especially in situations having a variety of alternatives. The purchase of a micro computer is an excellent example of a consumer decision which must consider a number of factors.

The micro computer can be used as a tool for home and personal management. One application of the micro computer in home use may be to aid in decision making.

OBJECTIVES:

1. Operate a micro computer.
2. Analyze your personal reaction to the use of a micro computer.
3. Utilize "Rank Master" in making a decision about the purchase of a micro computer.
4. Discuss in writing the results of the "Rank Master" decision making process.

PROCEDURE:

1. Read the entire module.
2. Complete the Worksheet prior to going to the Computer Lab.
3. Utilize the "Rank Master" program.
4. Analyze the results of the program.
5. Submit the computer print out with your analysis and the Worksheet for evaluation on the assigned due date.

ANALYSIS OF RESULTS: After you complete the computer program, "Rank Master" and have the print out, analyze the results of the decision making process. The analysis should be typed on the print out at the appropriate location. Use the following questions as a guideline for your analysis. Give reasons and support for your answers. Your print out will reflect levels and the questions are organized by these levels.

LEVEL 2:

1. Why did you select these five characteristics?
2. Why did you weight the characteristics the way you did in respect to satisfaction?
3. Is the priority ranking accurate in relation to your satisfaction with a micro computer? Why or why not?

LEVEL 3:

1. How will you most likely use the micro computer? Why did you select these three models?
2. For each of the characteristics, what are the results of the comparison of models with the characteristics? Discuss.

Global Prioritization:

1. What are the results? Explain.
2. Were these the results you expected? Why or why not?

PERSONAL REACTION:

1. What is your reaction to this method of decision making?
2. How does this method of decision making compare to other decision making processes? Be specific.
3. What is your personal reaction to the use of the microcomputer? Analyze.

HECE 390
FAMILY CONSUMER ECONOMICS

WORKSHEET: USING COMPUTERS IN THE DECISION MAKING PROCESS

Step 1: Select 5 characteristics from the following list. The characteristics selected should be the ones that you consider to be the most important when purchasing a microcomputer.

MEMORY - amount of K available to the user

DISPLAY - type of monitor, graphics-resolution, color and commands available, sound

HARDWARE - compatibility, floppy disk drives, hard disk drives, dot matrix printer, plotter, keyboard

LANGUAGE - languages available to the user (FORTRAM, BASIC, PASCAL)

SOFTWARE - types available, quality, professional evaluation, types included in the purchase price

OPERATION - ease of operation, ease of learning to use, quality of operation manual

SERVICE - local service, speed of service, trained personnel, what comes with the computer to help to use

RELIABILITY - dependable, durable

PRICE - system base price, options

Step 2: After selecting the 5 characteristics, consider how you would rank them with respect to satisfaction and with respect to each other. List the characteristics in priority and weight them as to their importance. For example, language is 4 times as important as display in terms of satisfaction. You will be asked to do this in the computer program.

Ranking of 5 characteristics with respect to satisfaction.

1.

2.

3.

4.

5.

Weighting of characteristics in relation to importance as compared with each other. Assign a value of 1-9 (9 being the most important).

Step 3: Select 3 models of microcomputers.

Step 4: Using the articles placed in the Resource Center or other information, evaluate and compare the 3 models.

Microcomputer Models Description

Step 5: Summarize the information about the 3 models according to the five characteristics you selected. The chart below should help you. You will be again asked to compare and rank the information as in Step 2. Therefore, carefully evaluate the information in order to give a quantitative rating.

Characteristics	Model 1_____	Q.R.	Model 2_____	Q.R.	Model 3 _____	Q.R.

MENU DEVELOPMENT

LEARNING OBJECTIVES

1. Write menus in the correct form.
2. Develop menus to be used when house manager.
3. List four considerations when developing menus.
4. Use the microcomputer for analyzing the nutritional value of menus.
5. Use computer suggestions to alter menus for maximum nutritional value.

ACTIVITIES

Step One:

Develop the menus for your days as manager of the house.

Keep in mind the following considerations when planning your menus:

1. Resources available (human and household)
2. Food preferences of the household.
3. Budget limitations
4. Nutritional requirements.

Write menus using the correct form.

Step Two:

Analyze the nutritional content of each day's diet.

Use the "Nutrition I" microcomputer program. There will be one copy in the Resource Center in Tupper Hall and one copy in the computer lab in Lindley Hall.

Instructions for the use of the computer and the "Nutrition I" microcomputer program are attached.

Step Three:

Using the recommendations made by the computer, correct your menus to better meet the nutritional requirements of the persons in the house.

Write final menus in the correct form.

TURN IN THE FOLLOWING:

1. Original menus
2. Computer print-out of the dietary analysis
3. Corrected menus

USING THE MICROCOMPUTER FOR DIETARY MANAGEMENT

LEARNING OBJECTIVES

Develop an awareness of the use of microcomputers in the management of dietary needs.

Record recipes on the "Micro Cookbook" data disk.

Print and use a grocery list using the "Micro Cookbook."

Discuss personal reactions to the use of a microcomputer in dietary management.

ACTIVITIES

1. Enter two recipes onto the "Micro Cookbook" recipe disk. Print out and turn in a copy of each recipe.

2. Use the "Micro Cookbook" to develop a shopping list. Select recipes from the index and print out the shopping list. Evaluate the list (order of items, information given, how you would change it.)

3. Discuss, in writing, your reaction to the use of "Micro Cookbook." The discussion should include the following considerations:

   -Time expenditure in comparison to other means of obtaining and managing recipes.

   -Problems encountered

   -Ease of use

   -Your personal reaction -- If "Micro Cookbook" was available, would you use it? Why or why not?

HECE 396: Home Management Laboratory
Varner, 1984
School of Home Economics, Ohio University

USE OF COMPUTERS IN HOME ECONOMICS EDUCATION PROGRAMS

1. Integrate Computer Units in College Classes
   Examples:
   - Computer awareness
   - Software evaluation
   - Hardware selection
   - Computer literacy
   - Computer resources and materials
   - Research projects

2. Integrate into Home Economics Content Areas
   Examples:
   - Food and Nutrition
   - Clothing and Textiles
   - Child Development
   - Family Studies
   - Consumer Education
   - Housing and Furnishings
   - Management and Equipment
   - Education and methods courses

3. Incorporate into Unit Plans and Lesson Plans for Student Teaching and Field Experiences
   Examples:
   - Subject matter areas
   - Basic skills review
   - As a teaching method
   - As a management tool
   - Software as one component of learning station
   - Problem solving skills

4. Use for Computer Managed Instruction (CMI)
   Examples:
   - Administration
   - Record keeping
   - Test construction
   - Test grading
   - Inventory
   - Feedback to students

5. Include Computer Assisted Instruction (CAI)
   Examples:
   - Tutorial
   - Drill and Practice
   - Simulations
   - Problem Solving
   - Games

6. Utilize in Laboratory Situations
   Examples:
   - Child development center
   - Home management laboratory
   - Independent living center
   - Peer teaching activities
   - Work with special groups and people who have special needs

7. Use to Individualize Instruction
   Examples:
   - Special projects
   - Make up work
   - Remedial materials
   - Quest programs
   - Creative thinking

8. Incorporate into Job Training Programs
   Examples:
   - Learn as technical skill
   - Consider uses for own business
   - Relate to on the job training

9. Utilize in Youth Organizations
   Examples:
   - Planning activities
   - Managing organization
   - Program topic
   - Computer interest groups
   - Self concept development

(OVER)

BEST COPY AVAILABLE

10. Create Teaching Materials
Examples: Use teacher utilities program
Create puzzles and word games
Design charts and graphs
Prepare visual aids
Create posters
Design handouts
Adapt materials on market
Contests

11. Encourage Leadership Roles
Example: Students demonstrate computer use
Work with other units on inter-disciplinary projects
Do public relations projects
Increase visibility of home economics
Write proposals for grants for computer skills

12. Improve Communication Skills
Examples: Word processing
Report writing
Newsletters
News releases
Update resumes
Improve typing skills
Increase reading skills

BEST COPY AVAILABLE